Attorney Docket No.: 000515-175

REMARKS

Applicants appreciate the December 2, 2003, interview granted by Examiner Anderson and the helpful comments provided during the interview. Claims 1-19 were pending in the application. New claims 20 and 21 have been added. Support for the new claims may be found at least on page 9, lines 5-19. No new matter was added. Claims 1-21 are now pending in the application.

Claims 1-4 and 6-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gryskiewicz et al., U.S. Patent No. 5,913,851, in view of Langdon, U.S. Patent No. 5,368,910. Applicants respectfully traverse this rejection.

Claim 1 of the present application is directed to a liquid-permeable cover sheet for an absorbent article which cover sheet comprises at least a first material layer, wherein a surface of the first material layer essentially consists of polyethylene which has been treated with plasma or corona to obtain a hydrophilic surface. The surface of the first material layer further has an oxygen/carbon ratio which is equal to or higher than 0.23. Independent claim 8 is directed to an absorbent article comprising an absorbent body enclosed between a liquid-impermeable cover sheet and a liquid-permeable cover sheet. The liquid-permeable cover sheet comprises at least a first material layer wherein a surface of the first material layer essentially consists of polyethylene which has been treated with plasma or corona in order to obtain liquid permeability. The surface of the first material layer further has an oxygen/carbon ratio which is equal to or higher than 0.23.

The problem solved by the claimed invention is to be able to obtain a liquid-permeable cover sheet having a higher hydrophilicity of wettability. The present invention provides a cover sheet having good liquid permeability even after repeated wetting of the article. *Page 3, lines 32-35.* As regards corona-treated and plasma-treated materials, it has been found by Applicants that different materials show significant differences in the acquired ability to retain the liquid permeability upon repeated wetting. *Specification, page 4, lines 7-11.* In other words, it surprisingly has been found that the liquid permeability upon repeated wetting is substantially better for materials with a surface of polyethylene than for materials with a surface of polypropylene. *Specification, page 4, lines 11-16.*

In order to examine the chemical composition of the material surface and determine the proportion of oxygen-containing compounds on the material surface,

which corresponds to higher hydrophilicity or wettability, ESCA was performed on certain materials as detailed in Example 1. The results showed that materials 2 and 3, the materials with a fibre covering of polyethylene, had the highest proportion of oxygen-containing compounds on the material surface. These materials retain a high oxygen/carbon ratio even after the structure has been washed, which is an indicator of higher hydrophilicity or wettability. *Page 14, lines 16-26.* The oxygen/carbon ratio for these materials is equal to or above 0.23. Thus, Applicants have discovered that a cover sheet or absorbent article as defined in the amended claims provides significant advantages over polypropylene materials or materials not treated as defined in the claims.

Gryskiewicz describes an absorbent article including liquid containment beams. The article may contain at least two layers which may be positioned against the skin. The portion of Gryskiewicz relied upon in the Office Action describes a support layer 54. This layer is described as follows:

> Each of the absorbent structures 52 is almost completely enclosed within a portion of the support layer 54. The support layer 54 functions to contain an absorbent structure 52 while also allowing liquids to pass through to the absorbent structure. The support layer 54 may also function to distribute liquids along and around the absorbent structures 52. The support layer 54 is bonded at spaced locations to the bodyside liner 44, thereby bonding each of the containment beams 50 to the interior surface 46 of the garment shell 45. As best shown in FIG. 3, the support layer 54 may comprise one integral layer extending across substantially the entire width of the garment shell 45, with different, transversely spaced portions wrapping each of the absorbent structures 52. The support layer 54 is bonded to the bodyside liner 44 adjacent one of the long edges of each absorbent structure 52. Alternatively, a separate support layer 54 may be provided for each absorbent structure 52 (not shown), or no support layer need be used (FIG. 10).
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> The support layer 54 is desirably formed of a liquid permeable material that is soft and does not irritate the skin of the wearer. The support layer 54 may comprise a woven, knit or nonwoven web. Suitable nonwoven webs include spunbonded, meltblown or bonded-carded webs composed of synthetic polymer filaments or fibers, such as polypropylene, polyethylene, polyesters or the like, or webs of natural polymer filaments or fibers such as rayon or cotton. The support layer 54 may also be treated with a surfactant to aid in liquid transfer to the absorbent structures 52. In particular embodiments, the support layer 54 comprises a single layer construction made from a 20.3 gsm (0.6 osy) thermally bonded web with 100 percent 3 denier polyethylene sheath and polyester core bicomponent staple fibers available from BASF Corporation of Enka, N.C., U.S.A.

Column 8, line 47 – column 9, line 13.

Another layer in contact with the body in the article of Gryskiewicz is bodyside liner 44, to which support layer 54 is bonded. This layer is described as follows:

> The illustrated undergarment 20 includes a substantially liquid impermeable moisture barrier 40 and a substantially liquid permeable bodyside liner 44. The moisture barrier 40 and bodyside liner 44 are bonded together, such as by ultrasonic bonds, thermal bonds, adhesives, or other suitable means. The peripheries of the moisture barrier 40 and the bodyside liner 44 form the side and end margins 38 and 39 of the undergarment 20. Conventional absorbent products typically employ some form of absorbent structure between the layers functioning as the moisture barrier and the bodyside liner. In the present undergarment 20, however, the liquid containment beams 50 minimize or eliminate the need for such an absorbent structure. Nevertheless, in particular embodiments of the present invention, it may be desirable to include a tissue layer or a thin layer of cellulose fibers between the moisture barrier 40 and bodyside liner 44 in areas where there are no containment beams 50...
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> ...The bodyside liner 44 provides a soft, nonirritating surface against the skin of the wearer. Accordingly, a separate layer functioning as a bodyside liner may not be needed if the moisture barrier 40 is sufficiently soft and nonirritating to be positioned against the skin. If used, the bodyside liner 44 may be formed of either a liquid permeable material or, if no layers functioning as absorbent or liquid handling layers are disposed beneath the body liner, a liquid impermeable material. Suitable bodyside liners 44 may comprise a nonwoven web or sheet of wet strength tissue paper, a spunbonded, meltblown or bonded-carded web composed of synthetic polymer filaments or fibers, such as polypropylene, polyethylene, polyesters or the like, or a web of natural polymer filaments or fibers such as rayon or cotton. In addition, the bodyside liner 44 is desirably nonelastic and may be treated with a surfactant to aid in liquid transfer. In a particular embodiment of the invention, the bodyside liner 44 comprises a nonwoven, spunbond polypropylene fabric composed of about 2.8 to 3.2 denier fibers formed into a web having a basis weight of about 22 gram per square meter (gsm) and density of about 0.06 gm/cc. The fabric is surface treated with about 0.28 weight percent of a surfactant commercially available from Union Carbide Chemicals and Plastics Company, Inc. of Danbury, Conn., U.S.A., under the trade designation Triton X-102.

Column 6, lines 22-39 and column 6, line 64 – column 7, line 20.

As shown in the above passages, Gryskiewicz describes at least two layers which touch the skin. Each of these layers is described such that they may be made with polypropylene, polyethylene, polyesters or the like. Then, each is described as particularly either polypropylene (bodyside liner 44) or polyethylene sheath and polyester

core bicomponent staple fibers (support layer 54). According to the Examiner, one of skill in the art would select the material of support layer 54 in view of its position in the absorbent article of Gryskiewicz. However, bodyside liner 44 is also to touch the skin. Since Applicants' discovery involves the surprising advantage of polyethylene over polypropylene, the selection of one over the other must be clear from the art, not a matter of hindsight selection of one particular teaching over another without suggestion to do so.

Langdon is cited for its suggestion to use ionizing radiation for hydrophilizing fibrous surfaces. The combination of Gryskiewicz and Langdon fails, however, since Gryskiewicz does not provide the requisite motivation to combine the ionizing radiation teaching with polyethylene as claimed.

The rejection hinges entirely on the selection of only particular portions of Gryskiewicz to combine them with Langdon in an attempt to show the obviousness of the present invention. However, it is impermissible to use the claimed invention as an instruction manual or template to piece together the teachings of the prior art so that the claimed invention is rendered obvious. *In re Fritch*, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). Moreover, the mere fact that reference can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990). There is no teaching or suggestion in Gryskiewicz or Langdon to use polyethylene treated as claimed to obtain a cover sheet with a particular oxygen/carbon ratio evidencing higher hydrophilicity as claimed.

In view of the foregoing, Applicants respectfully request that the rejection be withdrawn. A *prima facie* case has not been made in view of the lack of motivation to combine the cited patents as urged in the Office Action, and in view of the unexpected results obtained by the present invention as detailed in the specification and examples.

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Gryskiewicz in view of Langdon and further in view of Thomas et al., U.S. Patent No. 4,351,784. Applicants respectfully traverse this rejection. In view of the above discussion regarding the lack of motivation to combine Langdon and Gryskiewicz as asserted in the Office Action, Thomas does not add anything to obviate the patentability of the claims. In view thereof, Applicants respectfully request that this rejection be withdrawn.

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From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: Mary B. Grant
Mary B. Grant
Registration No. 32,176

P.O. Box 1404
Alexandria, Virginia 22313-1404
(919) 941-9240

Date: January 5, 2004

I hereby certify that this correspondence is being filed by facsimile transmission to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA. 22313-1450, to facsimile number 1.703.872.9306 on this date, January 5, 2004.

by Sandra B. Paye
Sandra B. Paye